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Immunizations: Protect Your Horse Against Infectious Diseases

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Few things will help protect your horse from the ravages of some infectious diseases as easily and effectively as immunizations. The vaccines administered by your veterinarian to your horse place a protective barrier between the horse and several diseases: tetanus, encephalomyelitis (sleeping sickness), equine influenza, rhinopneumonitis, rabies, strangles, and Potomac Horse Fever, to name the most common.
Vaccinations are a vital part of proper equine management. If incorporated into a program that includes regular deworming, an ample supply of clean water, good nutrition, and a safe environment, you and your horse will be all set to enjoy many happy, healthy, productive years together.

WHAT TO EXPECT

A good immunization program is essential to responsible horse ownership, but just as in people, vaccination does not guarantee 100% protection. Please keep the following information in mind as you plan your vaccination program with your veterinarian:

1. Vaccination serves to minimize the risk of infection, but does not prevent disease in all circumstances.
2. Primary series of vaccines and booster doses should be administered before likely exposure.
3. Each horse in a population is not protected to an equal degree nor for an equal duration following vaccination.
4. All horses in a herd should be appropriately vaccinated; and, whenever possible, the same schedule should be followed.

Vaccination involves the administration (usually by injection or intranasally) of the causative organisms or important components of those organisms that are inactivated or modified to avoid causing actual disease in the horse. Two or more doses are usually needed to initiate an adequate immune response.

After the immunization procedure is completed, the protective antibodies in the blood and other specialized immune system components stand guard against the invasion of specific diseases. Over time, however, those antibodies gradually decline. Therefore, a booster is needed at regular intervals to maintain adequate protection. Protection against some diseases, such as tetanus and rabies can be accomplished by boosters once a year. Others require more frequent intervals to provide adequate protection.

VACCINATIONS NEEDED

The specific immunizations needed by a particular horse or horses depend upon several factors: environment, age, breed, sex, use, exposure risk, geographic location, and general management. Your local equine veterinary practitioner will know what is best for your horse and can help you determine the vaccination program best suited to your horse's individual needs.
The following diseases are those most often vaccinated against:

Tetanus ~ Sometimes called "lockjaw," tetanus is caused by toxin-producing bacteria that can be found in the intestinal tract of many animals and found in abundance in the soil where horses live. Its spores can exist for years. The spores enter the body through wounds, lacerations, or the umbilicus of newborn foals. Although not contagious from horse to horse, tetanus poses a constant threat to horses.

Clinical signs include muscle stiffness and rigidity, flared nostrils, hypersensitivity, and the legs stiffly held in a sawhorse stance. As the disease progresses, muscles in the jaw and face stiffen, preventing the animal from eating or drinking. More than 80 percent of affected horses die.

All horses should be immunized annually against tetanus. Additional boosters for mares and foals may be recommended by your veterinarian. Available vaccines are inexpensive, safe, and provide good protection.

Encephalomyelitis ~ More commonly known as "sleeping sickness," vaccines are available against Western Equine Encephalomyelitis (WEE), Eastern Equine Encephalomyelitis (EEE), Venezuelan Equine Encephalomyelitis (VEE) and West Nile Virus (WNV). Throughout North America, WEE has been noted, while EEE appears only in the east and southeast. Venezuelan Equine Encephalomyelitis (VEE) has not been seen in the United States for many years. West Nile Virus has been diagnosed in all states in the US. Sleeping sickness is most often transmitted by mosquitoes, after the insects have acquired the virus from birds and rodents. People also are susceptible when bitten by an infected mosquito, but direct horse-to-horse or horse-to-person transmission is very rare.

Signs vary widely, but result from infection of the brain and/or spinal cord. Early signs include fever, depression, and appetite loss. Later, a horse might stagger when it walks, and paralysis develops in later stages. About 50% of horse infected with WEE die, and the death rate is 70 to 90% of animals infected with EEE or VEE. The mortality rate for West Nile Virus is 25—35%.

All horses need an EEE, WEE, and WNV vaccine at least annually. Pregnant mares and foals may require additional vaccinations. The best time to vaccinate is spring, before the mosquitoes become active. In the south and west some veterinarians choose to add a booster shot in the fall to ensure extra protection year-round.

Influenza ~ This is one of the most common respiratory diseases in the horse. Highly contagious, the virus can be transmitted by aerosol (when snorting or coughing) from horse to horse over distances as far as 30 yards.
Signs to watch for include cough, nasal discharge, fever, depression, and loss of appetite. With proper care, most horses recover in about 10 days. Some, however, may show signs for weeks, especially if put back to work too soon. Influenza has no specific treatment and can result in a lot of "down time" with indirect financial loss, not to mention discomfort for your horse.

Unfortunately, influenza viruses are constantly changing or "mutating" and can bypass the horse's immune defense. Therefore, duration of protection is short-lived and revaccination may be recommended as frequently as every two to four months.

Both intramuscular injectable and intranasal influenza vaccines are available for use in horses. Your veterinarian can tell you which products are the most appropriate for your situation. Horses less than five years old are at a greater risk of contracting influenza. Not all horses need vaccination against influenza. However, horses that travel or are exposed to other horses should be regularly immunized against influenza. Follow your veterinarian's advice as to whether your horse needs influenza vaccine.

Rhinopneumonitis ~ Two distinct viruses, equine herpesvirus type 1 (EHV-1) and equine herpesvirus type 4 (EHV-4), cause two different diseases. Both cause respiratory tract problems, and EHV-1 may also cause abortion, foal death and paralysis. Infected horses may be feverish and lethargic, and may lose appetite and experience nasal discharge and a cough. Young horses suffer most from respiratory tract infections by these viruses. Rhinopneumonitis is spread by aerosol and by direct contact with secretions, utensils or drinking water. Virus may be present but not apparent in carrier animals.

Pregnant mares, foals, weanlings, yearlings and young horses under stress are candidates to be vaccinated. Immune protection is short. Therefore, pregnant mares are vaccinated at least during the fifth, seventh, and ninth months of gestation and youngsters at high risk need a booster at least every three months. Many veterinarians recommend vaccination at two-month intervals year-round for high-risk animals.

Rabies ~ A frightening disease which more commonly occurs in some areas than in others. Horses are infected infrequently, but death always occurs. Rabies can be transmitted from horses to humans. Rabies is now considered a core vaccine.

OTHER DISEASE THREATS

Several other diseases are common, although the need for vaccination against them is highly individual. Rely on your veterinarian to guide you and follow your veterinarian's recommendations.

Other diseases include:

Strangles ~ A highly contagious and dangerous bacterial disease, caused by the Streptococcus equi organism. There may be some side effects associated with vaccination; therefore, it is important to discuss the risks versus benefits of vaccination with your veterinarian. Strep equi vaccines are available in both the intramuscular injectable and the intranasal form of administration.
Botulism ~ Known as "shaker foal syndrome" in young horses, this disease can be serious. Botulism in adult horses, "forage poisoning," also can be fatal. Vaccines are not available against all types of botulism. Pregnant mares can be vaccinated against one form, clostridium botulism type B for the shaker foal syndrome. Foals can be protected by vaccinating the pregnant mare late in her pregnancy and then ensuring adequate colostrum intake by the newborn foal. The colostrum contains the specific antibodies necessary to provide protection in the foal.
Equine viral arteritis (EVA) ~ A complicated disease which can result in abortion and/or export restrictions. Stallions and mares should be tested prior to giving this vaccine.
Potomac Horse Fever ~ A seasonal problem with geographic factors. One third of affected horses die.

IN A NUTSHELL

For primary immunizations, an initial series of vaccinations is required, followed by appropriately spaced boosters. The schedule below is a suggested vaccination schedule provided by the American Association of Equine Practitioners, and is based on generally accepted veterinary practices. It is the responsibility of your veterinarian to utilize this information coupled with available products to determine the best professional care for your horse.

Recommended Vaccinations Schedule

West Nile Virus
- Foals ~ First dose: 3 to 4 months; Second dose: 1 month later (plus 3rd dose at 7 months in endemic areas).
- Yearlings ~ Annual booster, prior to expected risk. Vaccinate semi-annually or more frequently (every 4months), depending on risk.
- Adult Horses ~ Annual booster, prior to expected risk. Vaccinate semi-annually or more frequently (every 4 months), depending on risk.
- Broodmares ~ Annual, 4 to 6 weeks pre-partum

Tetanus Toxoid
- Foals ~ ***From non-vaccinated mare*** ~ First dose: 3 to 4 months; Second dose: 4 to 5 months; Third dose: 5 to 6 months. ***From vaccinated mare*** ~ First dose: 6 months; Second dose: 7months; Third dose: 9 to 10 months
- Yearlings ~ Annual
- Adult Horses ~ Annual
- Broodmares ~ Annual, 4 to 6 weeks pre-partum
- Booster at time of penetrating injury or surgery, if last dose not administered within 6 months

Encephalomyelitis (EEE, WEE, VEE)
- Foals ~ EEE: (in high-risk areas) First dose: 3 to 4 months; Second dose: 4 to 5 months; Third dose: 5 to 6 months
- Foals ~ WEE, EEE (in low-risk areas) and VEE: ***From non-vaccinated mare*** ~ First dose: 3 to 4 months; Second dose: 4 to 5 months; Third dose: 5 to 6 months. ***From vaccinated mare*** ~ First dose: 6 months; Second dose: 7 months; Third dose:9 to 10 months
- Yearlings ~ Annual, spring
- Adult Horses ~ Annual, spring
- Broodmares ~ Annual, 4 to 6 weeks pre-partum
- In endemic areas, booster EEE and WEE every 6 months; VEE only needed when threat of exposure; VEE may only be available as a combination vaccine with EEE and WEE.

Influenza - Inactivated injectable
- Foals ~ ***From non-vaccinated mare*** ~ First dose: 6 months; Second dose: 7 months; Third dose: 9 months. ***From vaccinated mare*** ~ First dose: 9 months; Second dose: 10 months; Third dose: 11 to 12 months.
- Foals ~ After initial series, then, at 3-month intervals
- Yearlings ~ Every 3 to 4 months
- Adult Horses ~ Every 3 to 4 months; Annual with added boosters prior to likely exposure
- Broodmares ~ At least semiannual, with 1 booster 4 to 6 weeks pre-partum

Influenza - Intranasal modified live virus
- Foals ~ First dose: 10 months
- Yearlings ~ Every 6 months
- Adult Horses ~ Every 6 months
- Broodmares ~ not recommended until further data is available

Rhinopneumonitis (EHV-1 and EHV-4)
- Foals ~ ***From non-vaccinated mare*** ~ First dose: 3 months; Second dose: 4 months; Third dose: 6 months. ***From vaccinated mare*** ~ First dose: 4 to 6 months; Second dose: 5 to 7 months; Third dose: 9 to 10 months.
- Foals ~ After initial series, then, at 3-month intervals
- Yearlings and Adult Horses ~ Booster every 3 to 4 months up to annually, as prescribed by veterinarian
- Broodmares ~ Fifth, seventh, ninth month of gestation (inactivated EHV-1 vaccine); optional dose at third month of gestation. Vaccination of mares before breeding and 4 to 6 weeks pre-partum is suggested.

Rabies
- Foals ~ ***From non-vaccinated mare*** ~ First dose: 3 to 4 months; Second dose: 12 months. ***From vaccinated mare*** ~ First dose: 6 months; Second dose: 7 months.
- Yearlings and Adult Horses ~ Annual booster.

Appropriate vaccinations are the best and most cost-effective weapon you have against common infectious diseases of the horse. A program designed with the help and advice of your veterinarian will help keep your horses healthy, and you happy, for many years to come.

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